



Water Resources ♦ Flood Control ♦ Water Rights

GILBERT COSIO, JR., P.E.
MARC VAN CAMP, P.E.
WALTER BOUREZ, III, P.E.
RIC REINHARDT, P.E.
GARY KIENLEN, P.E.
DON TRIEU, P.E.
DARREN CORDOVA, P.E.
NATHAN HERSHEY, P.E., P.L.S.
LEE G. BERGFELD, P.E.
BEN TUSTISON, P.E.

ANGUS NORMAN MURRAY
1913-1985

CONSULTANTS:
JOSEPH I. BURNS, P.E.
DONALD E. KIENLEN, P.E.

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Via regular mail and email: DLIS_NOP_comments@deltacouncil.ca.gov

Cindy Messer, Deputy Executive Officer – Planning
Delta Stewardship Council
980 Ninth Street, Suite 1500
Sacramento, CA 95814

Subject: Notice of Preparation for Delta Levee Investment Strategy Policy

Dear Ms. Messer:

The following are our comments on the Notice of Preparation (NOP) for the Delta Levee Investment Strategy Policy (DLIS). As you will note, many of these comments indicate our belief that additional work will require completion of information prior to preparation of your environmental document.

1. **Definition of “levee system”** – The DLIS should clearly define the existing status of the Delta levee system. This status would include the non-Project and Project levees, their current level and state of protection, and the estimated future goals and costs associated to reach those goals and objectives. This information should include the costs to obtain an Urban Level of Protection (ULOP) where it is required, and the costs to attain the level of protection to reach the “tolerable risk” for each rural levee system.
2. **Impacts due to flooded islands** – As has been indicated by certain documents provided during the DLIS process, a potential strategy for the DLIS would be to leave certain islands flooded should their levees fail. The impact of leaving islands flooded should be thoroughly investigated. At this point, the DLIS indicates that the benefit to leaving these islands flooded would be for habitat. However, there are significant impacts that have not been discussed. One of these impacts is loss of water supply: a flooded island and the subsequent evaporation from that island will result in loss of freshwater in excess of what would have been used by the evapotranspiration of the farming on that island. Loss of this water supply would have to be supplemented by additional flows in

order to maintain certain Delta water quality requirements. The flooded islands will add forces that will affect other islands and the economic viability of neighboring islands. The environmental document should investigate the connectivity of islands and the impact on neighboring islands after a levee failure. This connectivity includes access between islands and impacts caused by long-term inundation of an island, such as increased wind and wave erosion and increased seepage forces.

3. **Maintenance funding** – The environmental document should address the impact to the Delta should maintenance funding not be available in the future. We assume the document will evaluate the “do-nothing” alternative. As studies have indicated, by doing nothing, the levees will degrade and also be subject to future forces such as increased sea level rise. It should be indicated that the do-nothing impacts could be alleviated by simple maintenance funding, which would be separate from levee rehabilitation funding.
4. **Establishment of an appropriate rural levee standard** – We recommend that the minimum requirements of the Federal Emergency Management Agency (FEMA) Hazard Mitigation Plan (HMP) be removed as an acceptable levee standard. These requirements are only geometric and do not define a level of protection. In fact, recent geotechnical analyses on projects currently funded by the Department of Water Resources indicate that HMP improvements will lower the level of protection. The appropriate level of protection for rural levees is clearly defined in Bulletin 192-82, *Delta Levees Investigation*. One of the concerns listed in that report was that the costs to achieve the appropriate rural level of protection could be extremely high. However, since that report was issued 33 years ago, the majority of the funding has already been invested; therefore the costs for attainment of the Bulletin 192-82 standard throughout all rural non-Project levees should be extensively studied and incorporated into the DLIS.
5. **Delta as Place** – The DLIS should include all the components listed in Water Code section 12981 and incorporate them into furthering the Delta as Place. By doing this it would be clear that the levees in their current state would be important to the Delta-as-Place component of the Delta Plan. In addition, the DLIS should acknowledge that the risks to all levees are risks to the entire system, not just to individual reclamation districts. Therefore the document should analyze the environmental impacts of leaving islands flooded, and acknowledge the economic impacts of leaving islands flooded in the impact on Delta as Place.
6. **Cost sharing** – The DLIS document should clearly describe the fact that throughout the 27 years since the increase in Delta levee subventions funding under SB 34, reclamation districts have stepped up their cost share to a point where they currently fund a significant amount of Delta levee improvements. The document should indicate that the cost share provided by landowners within reclamation districts is limited. However, landowners are used to a significant portion of the total levee funding coming from their levee assessment.

7. **Available data** – It is understood that the DLIS will take advantage of all existing studies and their results. However, much of the information from these studies is very outdated. For instance, the Delta Risk Management Strategy (DRMS) was drafted using data that is approximately 10 years old. Since that time, Propositions 84 and 1E have provided more than \$500 million in expended and allocated funding toward non-Project levees in the Delta. The DLIS should determine what kind of impact this investment would have on the results of previous studies. In addition, the DLIS should investigate some of the generalizations made by these studies that may not accurately characterize the current levee system, due to the fact that additional knowledge has been acquired since the study was performed.
8. **Identification of different types of investment** – The DLIS policy should separate the types of investment needed for the Delta levees. Urban levee investments, rural levee investments and environmental investments are different; therefore they should be clearly defined as to what makes them different and their analysis should be separated. Comparison of them as similar investments is like comparing apples to oranges.
9. **Investigation of past investments** – It is clear that since 1988, hundreds of millions of dollars have been invested into the Delta levees. The DLIS should investigate the impact of the investments on the levee system. Without acknowledging the results of these investments, it will be impossible to determine whether additional investments on islands are reasonable or not. From our experience, we are certain that many levee systems will require very little additional investment in order to attain the tolerable risk status for agricultural non-Project levees.
10. **Hydrodynamics** – The DLIS, prior to accepting permanently flooded islands, should investigate the impact these flooded islands will have upon the Delta. The hydrodynamic analyses would be used to determine how much water will be required to maintain Delta water quality requirements. In addition, the change in hydrodynamics will significantly impact the exchange between salt and fresh water. The impacts of these changes should be evaluated by the DLIS.
11. **Habitat improvements** – The DLIS should investigate the benefits of programmatic or corridor habitat rather than project-by-project environmental improvements. This type of approach has been successful in the Delta Levees Program, both in providing habitat and encouraging participation in the program. In addition to reviewing the benefits of habitat, the environmental document should investigate the issues associated with habitat that could impact levee maintenance, such as hydraulics of channels, which may impact flood elevations; and the impacts that habitat would have on levee systems due to introduction of burrowing animals.
12. **Timing of investments** – The document should clearly investigate the timing of levee investments, acknowledging that due to the limitations of local cost share, some levee investments will take a number of years to incorporate. Therefore the need for levee funding would not be required at one time; rather it would be spaced out over a

number of years. This step in planning could spread the limited funds out to more levee systems. The results of the levee improvements could then be analyzed and used to draft bonds for future levee investments.

Thank you for the opportunity to provide these comments.

Sincerely,
MBK ENGINEERS

A handwritten signature in blue ink, appearing to read "Gilbert Cosio, P.E.", with a stylized flourish at the end.

Gilbert Cosio, P.E.